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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,434	06/23/2003	Kazushige Katsuumi	239465US3	5616
22850	7590	07/06/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TRAN, LY T	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,434

Applicant(s)

KATSUUMI, KAZUSHIGE

Examiner

Ly T. TRAN

Art Unit

2853

QAM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 5/12/05.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/12/05 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipate by Sato et al. (JP 404070350A).

With respect to claims 1 and 2, Sato et al discloses a maintenance apparatus and method for an ink jet print head comprising:

- a pressure control section which controls the pressure in the ink control tank path against the atmospheric pressure applied to a surface of the ink to push the ink out of the orifice as a purging operation of ink carried out

to remove particles of dirt in the ink then maintain the pressure applied to the ink surface of the orifice approximately to the atmospheric pressure such that the ink is not set back from the orifice plate toward the ink supply path after the purging operation (Fig.2: element 3, 38, Abstract);

- an ink suction section which suck ink remaining in the vicinity of each orifice and on a surface of orifice plate surrounding each orifice after purging operation in a state where the pressure applied to the ink surface of each orifice is maintained approximately to the atmospheric pressure (Fig.2: element 7, Abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (JP 404070350A) in view of Nozawa (USPN 5,128,690).

Sato fails to teach suction nozzle which moves in arrangement direction of the orifice along the orifice plate.

Nozawa teaches a suction nozzle which moves in arrangement direction of the orifice along the orifice plate (Column 5: line 39-52, figure 7: element 82) and because the suction nozzle is moved back and forth in the direction in which the orifices are

arranged in an array, an air gap, it must contact or separate from the orifice plate which is a protection member by an air gap.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of Sato having the orifice plate with Nozawa having a nozzle suction in order to keep open a predetermined number of nozzles.

4. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (JP 404070350A) in view of Shindo (USPN 6,786,566).

With respect to claims 5-10, Sato et al discloses a maintenance apparatus and method for an ink jet print head comprising:

- a pressure control section which controls the pressure in the ink control tank path against the atmospheric pressure applied to a surface of the ink to push the ink out of the orifice as a purging operation of ink carried out to remove particles of dirt in the ink then maintain the pressure applied to the ink surface of the orifice approximately to the atmospheric pressure such that the ink is not set back from the orifice plate toward the ink supply path after the purging operation (Fig.2: element 3, 38, Abstract);
- an ink suction section which suck ink remaining in the vicinity of each orifice and on a surface of orifice plate surrounding each orifice after purging operation in a state where the pressure applied to the ink surface

of each orifice is maintained approximately to the atmospheric pressure
(Fig.2: element 7, Abstract).

However, Sato fails to teach the suction pressure is between $-.27$ kPa and $+.27$ Kpa and $.67$ and -2.0 kPa

Shindo teaches the suction pressure is about $.2$ Kpa, which is range of $-.27$ and $.27$ and (Column 7: line 4-11) the suction pressure is about $.5$ Kpa, which is range of $.67$ and 2.0 Kpa.

It would have been obvious to one having ordinary skill in the art at the time the invention was made as modify to have the suction pressure of $.2$ kPa and $.5$ Kpa as taught by Shindo. The motivation of doing so is to perform the purg operation with the reduced suction force when the amount of ink remaining in the cartridge is less than a predetermined amount, while preventing the air ink the ink cartridge from being pulled into the prevent head by the purge operation keep the ink in the cartridge.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T. TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT

June 30, 2005



Stephen D. Meler
Primary Examiner